

CLAIMS

1. A wiring harness for conveying signals representing measurements made at a first location to a measuring instrument remotely located from said first location, said harness comprising:

- 5 a first cable having an outer sheath with a first diameter;  
a plurality of coaxial cables, each of said coaxial cables having an outer shield with a diameter substantially smaller than said first diameter and a corresponding inner conductor, said coaxial cables being arranged within said outer sheath of said first cable;
- 10 a plurality of first contacts arranged on said outer sheath of said first cable, each of said contacts being electrically connected to the inner conductor of a respective one of said plurality of coaxial cables.

2. A wiring harness as claimed in claim 1 wherein the coaxial cables are arranged within said outer sheath of said first cable substantially parallel to each other.
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3. A wiring harness as claimed in claim 1 wherein said first cable has a predetermined length and said contacts are spaced from each other along said length of said cable.
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4. A wiring harness as claimed in claim 3 wherein said contacts are substantially equally spaced from each other along said predetermined length of said cable.
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5. A wiring harness as claimed in claim 1 wherein said contacts are zero insertion force connectors.

6. A wiring harness as claimed in claims 1 wherein the plurality of coaxial cables are coupled to a termination network.
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7. A wiring harness as claimed in claim 1 wherein one end of said first cable is terminated in a trunk cable connector having a plurality of first terminals, each of said first terminals being respectively connected to the inner connector of one of said plurality of coaxial cables.

8. A wiring harness as claimed in claim 7 wherein the plurality of coaxial cables are coupled to a termination network at the other end of said first cable.

9. A wiring harness as claimed in claim 7 wherein the measuring instrument comprises a trunk cable connector receptacle with second terminals adapted to cooperate with said first terminals of said trunk cable connector so that when said terminals of said receptacle and said trunk cable connector are in electrical contact, any electrical signals received by said first contacts are transmitted to said measuring instrument via said inner conductors and said terminals of said trunk connector.

10. The wiring harness as claimed in claim 9 wherein each of the plurality of coaxial cables is cut at the location of the associated first contact into a first portion and a second portion electrically isolated from each other, wherein the inner conductor of the first portion is connected between the first contact and the associated second terminal.

11. A wiring harness as claimed in claim 1 wherein said first cable is flexible and substantially cylindrical.

12. A wiring harness as claimed in claim 1 wherein said first location is a where a patient is under test and said measuring instrument is an electrocardiogram apparatus.

13. A wiring harness as claimed in claim 1 wherein the outer shield of each of said coaxial cables is capable of being electrically grounded to shield any signals on said inner conductors from outside electrical interference.

14. A wiring harness as claimed in claim 1 wherein the outer shields of each of said coaxial cables are electrically isolated from each other.

5 15. A wiring harness as claimed in claims 14 wherein the outer shields of each of said coaxial cables are electrically isolated from each other to a relatively high potential.

10 16. A wiring harness as claimed in claim 1 wherein each of said contacts provides a smooth bulge along said outer sheath of said first cable.

17. A wiring harness as claimed in claim 1 wherein the plurality of coaxial cables run from one end of the first cable to the other end of the first cable.

15 18. The wiring harness as claimed in claim 17 wherein each of the plurality of coaxial cables is cut at the location of the associated first contact into a first portion and a second portion electrically isolated from each other, wherein the inner conductor of the first portion is connected to the associated first contact.

20 19. The wiring harness as claimed in claim 17 wherein each of the plurality of coaxial cables runs electrically continuous from one end of the first cable to the other end of the first cable and the associated first contact is connected as a tap to the inner conductor of the coaxial cable at the location of the first contact.

25 20. An EKG wiring harness for conveying signals derived from multiple patient attached electrodes, comprising:

a single cylindrical cable of substantially uniform diameter along its length including:

a plurality of individual coaxial cables, with independent grounds, for conveying EKG signals, and

30 a plurality of fastening devices terminating said plurality of coaxial cables at intermediate positions along the length of said single cylindrical cable; and

35 a connector terminating one end of said single cylindrical cable including a plurality of contacts coupled to inner conductors of said plurality of coaxial cables.

21. An EKG wiring harness according to claim 20 wherein said plurality of fastening devices provide smooth bulges along said cylindrical cable supporting extraction of said cylindrical cable from tangled external wires by a user applying physical pulling force.

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22. An EKG wiring harness according to claim 20 wherein said fastening devices have a zero insertion force mechanism for electrode connector coupling.

23. An EKG wiring harness according to claim 20 wherein the wiring harness further comprises a termination network coupled to the plurality of individual coaxial cables at the other end of said single cylindrical cable.

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